

ABSTRACT OF THE DISCLOSURE

5 A bioptical laser scanning system employing a plurality of laser scanning stations about a
two independently controlled rotating polygonal mirrors. The system has an ultra-compact
construction, ideally suited for space-constrained retail scanning environments, and generates a
3-D omnidirectional laser scanning pattern between the bottom and side-scanning windows
during system operation. The laser scanning pattern of the present invention comprises a
10 complex of quasi-orthogonal laser scanning planes, including a plurality of substantially-vertical
laser scanning planes for reading bar code symbols having bar code elements (i.e. ladder type bar
code symbols) that are oriented substantially horizontal with respect to the bottom-scanning
window, and a plurality of substantially-horizontal laser scanning planes for reading bar code
symbols having bar code elements (i.e. picket-fence type bar code symbols) that are oriented
substantially vertical with respect to the bottom-scanning window.